

What is claimed is:

1. A method of communicating a variable length mobile network code (MNC) from a mobile communications network to a mobile station, the method comprising:
transmitting a message comprising at least one of a first field and a second field, wherein the first field indicates whether the MNC is greater than a fixed length.
2. The method of claim 1, wherein the first field further indicates whether the second field is included in the message.
3. The method of claim 1, wherein when the network supports the MNC greater than the fixed length, the first field is set to a first logic level to indicate that the second field is included.
4. The method of claim 1, wherein when the network supports the MNC not greater than the fixed length, the first field is set to a second logic level to indicate that the second field is not included.
5. The method of claim 1, wherein the second field comprises a first part of the MNC.
6. The method of claim 5, wherein the first part comprises a least significant digit of the MNC.
7. The method of claim 6, wherein most significant digits of the MNC are transmitted to the mobile station in a third field.

8. The method of claim 7, wherein upon receiving the second field and the third field, the mobile terminal determines a first value of MNC supported by the network and compares the first value of MNC with a second value of MNC stored in the mobile terminal.
9. The method of claim 8, wherein if the first value is different from the second value then the mobile terminal is roaming.
10. The method of claim 1, wherein the message is sent over at least one of a paging channel and a broadcast control channel (BCCH).
11. The method of claim 10, wherein the message is an extended system parameters message (ESPM).
12. The method of claim 10, wherein the message is an ANSI-41 system parameters message (A41SPM).
13. The method of claim 10, wherein the message is a MC-RR parameters message (MCRRPM).
14. The method of claim 5, wherein value of the first part is determined based on an association between a decimal value and a binary value.
15. The method of claim 14, wherein the binary value comprises 4 bits.

16. A method of supporting a variable length mobile network code (MNC) in a mobile terminal, the method comprising:

receiving a first value representing a mobile network code (MNC) of a fixed length from a network; and

receiving a second value which identifies whether the MNC is greater than the fixed length, wherein if the network supports the MNC greater than the fixed length, then the second value is equal to a first logic level to indicate that a third value will be sent from the network.

17. The method of claim 16, further comprising:

receiving the third value from the network; and

determining the MNC value based on the first and third values.

18. The method of claim 16, wherein the first value comprises the most significant digits of the MNC.

19. The method of claim 16, wherein the second value comprises the least significant digit of the MNC.

20. The method of claim 17, further comprising:

comparing the MNC value with a stored MNC value to determine a roaming status.

21. A method of communicating a variable length mobile network code (MNC) from a mobile station to a mobile communications network, the method comprising:

transmitting a message comprising a first field, wherein the first field indicates whether the MNC is greater than a fixed length.

22. The method of claim 21, wherein when the MNC is greater than the fixed length, the first field is set to a first logic level.

23. The method of claim 21, wherein when the MNC not greater than the fixed length, the first field is set to a second logic level.

24. The method of claim 21, wherein the message is an origination message (ORM).

25. The method of claim 21, wherein the message is a registration message (RGM).

26. The method of claim 21, wherein the message is a paging response message (PRM).

27. The method of claim 21, wherein the mobile station is associated with an international mobile station identity (IMSI), wherein the IMSI comprising a mobile country code (MCC) field, a IMSI_11_12 field, and a IMSI_S field, wherein at least one of the IMSI_11_12 field and the IMSI_S field comprise the MNC, and wherein when the first field indicates that the MNC is greater than the fixed length, the network extracts a first part of the MNC from the IMSI_11_12 field and a second part of the MNC from a most significant position of IMSI_S field.

28. The method of extracting an MNC from IMSI identifying a mobile station, the method comprising:

determining whether the MNC is greater than a fixed length based on a value of an indicator field included in a message transmitted from the mobile station;

reading first most significant digits of MNC from a first field of the IMSI;

reading least most significant digit of MNC from a most significant position of a second field of the IMSI, when the indicator field is set; and

calculating the MNC based on values in the first and second fields of the IMSI.

29. The method of claim 28, wherein the calculating comprises converting most significant digits of MNC from decimal to binary.